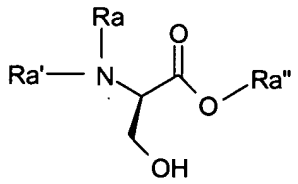
CLAIMS

1. Use of a R(+)-2-amino-3-hydroxypropanoic acid derivative of formula I



(I)

wherein Ra is a hydrogen, Ra' is a hydrogen, a straight or branched chain (C_3-C_6)alkenyl, 3-oxo(C_4-C_6)alkyl or 3-oxo(C_4-C_6)alken-2-yl group, a phenyl(C_1-C_6)alkyl, phenyl(C_2-C_6)alkenyl, (C_2-C_6)alcanoyl, gem-diphenyl(C_1-C_6)alkyl, gem-diphenyl(C_2-C_6)alkenyl, (C_3-C_6)alkenoyl, R(+)-2-aminopropionyl, S(-)-2-aminopropionyl, N-(C_2-C_6)alcanoyl-R(+)-2-aminopropionyl, N-(C_2-C_6)alcanoyl-S(-)-2-aminopropionyl, N-benzyloxycarbonyl-R(+)-2-aminopropionyl, N-benzyloxycarbonyl-S(-)-2-aminopropionyl, R(+)-2,6-diamino-*n*-hexanoyl, S(-)-2,6-diamino-*n*-hexanoyl, N,N'-bis-(C_2-C_6)alcanoyl-R(+)-2,6-diamino-*n*-hexanoyl, N,N'-(C_2-C_6)alcanoyl-S(-)-2,6-diamino-*n*-hexanoyl, N,N'-bis-benzyloxycarbonyl-R(+)-2,6-diamino-*n*-hexanoyl, N,N'-bis-benzyloxycarbonyl-S(-)-2,6-diamino-*n*-hexanoyl group; or Ra and Ra' are together a phenyl(C_1-C_6)alkylydene or gem-diphenyl(C_1-C_6)alkylidene group; Ra" is a hydrogen, a straight or branched chain (C_1-C_6)alkyl group or a (C_3-C_6)cycloalkyl(C_1-C_6)alkyl, phenyl(C_1-C_2)alkyl, phenacetyl or phenyl group, the phenyl group or groups present in the substituents Ra, Ra' and Ra" being non-substituted or substituted by a halogen atom or by a hydroxy, (C_1-C_3)alkoxy, cyano, nitro or acetyl group, with the proviso that, when Ra and Ra' are both H, then Ra" is other than hydrogen, methyl or ethyl; or of one of its pharmaceutically acceptable salts, for preparation of drugs for the treatment of cognitive disorders or mnestic disorders which accompany CNS diseases due to reduced glycinergic transmission.

2. Use according to claim 1, wherein said CNS disease due to reduced glycinergic transmission is schizophrenia.

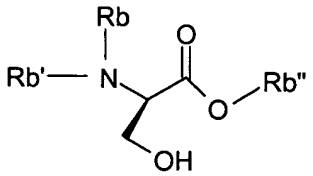
3. Use according to claim 1, wherein said CNS disease due to reduced glycinergic transmission is autism.

4. Use according to claim 1, wherein said CNS disease due to reduced glycinergic transmission is Alzheimer's disease.

5. Use according to any of claims 1 to 4, wherein said R(+)-2-amino-3-hydroxypropanoic acid derivative is selected from the group comprising isopropyl R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, benzyl R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, N-[R(+)-2-aminopropionyl]-R(+)-2-amino-3-hydroxypropanoic acid and pharmaceutically acceptable salts thereof, N-[S(-)-2-aminopropionyl]-R(+)-2-amino-3-hydroxypropanoic acid and pharmaceutically acceptable salts thereof, N-[2-[S(-)-benzyloxycarbonylamino]propionyl]-R(+)-2-amino-3-hydroxypropanoic acid and pharmaceutically acceptable salts thereof, N-acetyl-R(+)-2-amino-3-hydroxypropanoic acid and pharmaceutically acceptable salts thereof, N-benzyl-R(+)-2-amino-3-hydroxypropanoic acid and pharmaceutically acceptable salts thereof.

6. Use according to claim 5, wherein said R(+)-2-amino-3-hydroxypropanoic acid derivative is isopropyl R(+)-2-amino-3-hydroxypropanoate hydrochloride or benzyl R(+)-2-amino-3-hydroxypropanoate hydrochloride.

7. Pharmaceutical composition comprising, as active principle, a pharmaceutically effective dose of a R(+)-2-amino-3-hydroxypropanoic acid derivative of formula II



(II)

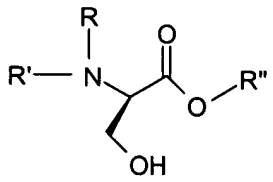
wherein Rb is a hydrogen, Rb' is a hydrogen, a straight or branched chain (C_3-C_6)alkenyl, 3-oxo(C_4-C_6)alkyl or 3-oxo(C_4-C_6)alken-2-yl group, a phenyl(C_1-C_6)alkyl, phenyl(C_2-C_6)alkenyl, (C_2-C_6)alcanoyl, gem-diphenyl(C_1-C_6)alkyl, gem-diphenyl(C_2-C_6)alkenyl, (C_3-C_6)alkenoyl, N-(C_2-C_6)alcanoyl-R(+)-2-aminopropionyl, N-(C_2-C_6)alcanoyl-S(-)-2-aminopropionyl, N-benzyloxycarbonyl-R(+)-2-aminopropionyl, N-benzyloxycarbonyl-S(-)-2-aminopropionyl, R(+)-2,6-diamino-*n*-hexanoyl, S(-)-2,6-diamino-*n*-hexanoyl, N,N'-bis-(C_2-C_6)alcanoyl-R(+)-2,6-diamino-*n*-hexanoyl, N,N'-(C_2-C_6)alcanoyl-S(-)-2,6-diamino-*n*-hexanoyl, N,N'-bis-benzyloxycarbonyl-R(+)-2,6-diamino-*n*-hexanoyl, N,N'-bis-

benzyloxycarbonyl-S(-)-2,6-diamino-*n*-hexanoyl group; or Rb and Rb', are together a phenyl(C_1-C_6)alkylydene or gem-diphenyl(C_1-C_6)alkylidene group; Rb" is a hydrogen, a straight or branched chain (C_1-C_6)alkyl group or a (C_3-C_6)cycloalkyl(C_1-C_6)alkyl, phenyl(C_1-C_2)alkyl, phenacetyl or phenyl group, the phenyl group or groups present in the Rb, Rb' and Rb" substituents being non-substituted or substituted by a halogen atom or by a hydroxy, (C_1-C_3)alkoxy, cyano, nitro or acetyl group, with the proviso that, when Rb and Rb' are both H, then Rb" is other than hydrogen, methyl, ethyl or non-substituted benzyl and that, when Rb is a hydrogen and Rb' is a non-substituted benzyl, a N-benzyloxycarbonyl-S(-)-2-aminopropionyl, a R(+)-2-aminopropionyl or S(-)-2-aminopropionyl, then Rb" is other than hydrogen; or one of its pharmaceutically acceptable salts, in admixture with a pharmaceutically acceptable carrier.

8. Pharmaceutical composition according to claim 7, wherein said active principle is selected from the group comprising 2-oxo-2-phenylethyl R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, cyclopropylmethyl R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, 4-acetylphenyl R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, N-[2-[R(+)-2,6-diaminohexanoyl]-R(+)-2-amino-3-hydroxypropanoic acid and pharmaceutically acceptable salts thereof, N-[2-[S(-)-2,6-diaminohexanoyl]-R(+)-2-amino-3-hydroxypropanoic acid and pharmaceutically acceptable salts thereof, ethyl N-[S(-)-2-aminopropionyl]-R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, methyl N-[2-[S(-)-benzyloxycarbonylamino]propionyl]-R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, ethyl N-[2-[S(-)-benzyloxycarbonylamino]propionyl]-R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, N-[2-[R(+)-benzyloxycarbonylamino]propionyl]-R(+)-2-amino-3-hydroxypropanoic acid and pharmaceutically acceptable salts thereof, methyl N-[2-[R(+)-benzyloxycarbonylamino]propionyl]-R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, N-[2-[S(-)-N,N'-bis-benzyloxycarbonyl-2,6-diaminohexanoyl]-R(+)-2-amino-3-hydroxypropanoic acid and pharmaceutically acceptable salts thereof, methyl N-[2-[R(+)-N,N'-bis-benzyloxycarbonyl-2,6-diaminohexanoyl]-

R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, methyl N-[2-[S(-)-N,N'-bis-benzyloxycarbonyl-2,6-diaminohexanoyl]-R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, ethyl N-[2-[R(+)-N,N'-bis-benzyloxycarbonyl-2,6-diaminohexanoyl]-R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof, ethyl N-benzyl-R(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof.

9. R(+)-2-amino-3-hydroxypropanoic acid derivative of formula III



(III)

wherein R is a hydrogen; R' is a hydrogen, a phenyl(C_2-C_6)alkenyl, gem-diphenyl(C_1-C_6)alkyl group other than benzhydryl, gem-diphenyl(C_2-C_6)alkenyl; or R and R' are together a phenyl(C_1-C_6)alkylidene or gem-diphenyl(C_1-C_6)alkylidene group; R" is a hydrogen or a (C_1-C_6)alkyl, (C_3-C_6)cycloalkyl(C_1-C_6)alkyl, phenyl(C_1-C_2)alkyl, phenacetyl or phenyl group; the phenyl group or groups being non-substituted or substituted by a halogen atom or by a hydroxy, (C_1-C_3)alkoxy, cyano, nitro or acetyl group, with the proviso that, when R and R' are both hydrogen , then R" is other than hydrogen; or one of its pharmaceutically acceptable salts.

10. R(+)-2-amino-3-hydroxypropanoic acid derivative according to claim 9, of formula III, where R' is a ω-diphenyl(C_2-C_6)alkyl group.

11. R(+)-N-(4,4-diphenyl)butyl-2-amino-3-hydroxypropanoic acid or a pharmaceutically acceptable salts thereof.

12. R(+)-N-[(4,4-diphenyl)-3-butenyl]-2-amino-3-hydroxypropanoic acid or a pharmaceutically acceptable salts thereof.

13. R(+)-N-[α-phenyl-(2-hydroxy)benzylidene]-2-amino-3-hydroxypropanoic acid or a pharmaceutically acceptable salts thereof.